

1.0 **PROJECT REPORT COVER PAGE**

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PROJECT INFORMATION:	

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17328 P058-1583-2017 Stage 1-2 Archaeological Assessment 3270 Sixth Line Stage 1-2 Archaeological Property Assessment of Part of Lot 16, Concession 1 North of Dundas Street (Geographic Township of Trafalgar, County of Halton) Oakville

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2.0 EXECUTIVE SUMMARY

This report describes the results of the 2017 Stage 1-2 Archaeological Property Assessment of Part of Lot 16, Concession 1 North of Dundas Street (Geographic Township of Trafalgar, County of Halton) Oakville, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Tourism, Culture and Sport for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) and the <u>Provincial Policy Statement</u> (2014) in order to support a Draft Plan of Subdivision application and companion Zoning By-law Amendment application as part of the pre-submission process. Within the land use planning and development context, <u>Ontario Regulation 544/06</u> under the <u>Planning Act</u> (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Tourism, Culture and Sport (MTCS). Policy 2.6 of the <u>Provincial Policy Statement</u> (PPS 2014) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011), the <u>Ontario Heritage Act</u> (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment on 15, November 2017, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism, Culture and Sport (MTCS) on behalf of the government and citizens of Ontario.

As a result of the property Assessment of the study area, three (3) isolated pre-contact findspots were encountered. Consequently, the following recommendations are made:

- Given the isolated nature of the findspots and the lack of any diagnostic tools, it is recommended that the study area be cleared of archaeological concern and that development activity be permitted to proceed, subject to the above provisions.

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4.0 **PROJECT PERSONNEL**

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5.0 **PROJECT BACKGROUND**

5.1 **DEVELOPMENT CONTEXT**

This report describes the results of the 2017 Stage 1-2 Archaeological Property Assessment of Part of Lot 16, Concession 1 North of Dundas Street (Geographic Township of Trafalgar, County of Halton) Oakville, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Tourism, Culture and Sport for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) and the <u>Provincial Policy Statement</u> (2014) in order to support a Draft Plan of Subdivision application and companion Zoning By-law Amendment application as part of the pre-submission process. Within the land use planning and development context, <u>Ontario Regulation 544/06</u> under the <u>Planning Act</u> (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Tourism, Culture and Sport (MTCS). Policy 2.6 of the <u>Provincial Policy Statement</u> (PPS 2014) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011), the <u>Ontario Heritage Act</u> (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment on 15, November 2017, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism, Culture and Sport (MTCS) on behalf of the government and citizens of Ontario.

The proposed development of the study area includes approximately several dozen townhouses and detached homes, as well as roads and parking. A draft land use concept plan of the proposed development has been submitted together with this report to MTCS for review.

5.2 HISTORICAL CONTEXT

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment." (OMCzCR 1993)

The evaluation of potential is further elaborated Section 1.3 of the <u>Standards and Guidelines</u> for <u>Consultant Archaeologist</u> (2011) prepared by the Ontario Ministry of Tourism and Culture:

"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment." (MTC 2011: 17)

Features or characteristics that indicate archaeological potential when documented within the study area, or within close proximity to the study area (as applicable), include:

" - previously identified archaeological sites

- water sources (It is important to distinguish types of water and shoreline, and to distinguish natural from artificial water sources, as these features affect site locations and types to varying degrees.):
 - o primary water sources (lakes, rivers, streams, creeks)
 - secondary water sources (intermittent streams and creeks, springs, marshes, swamps)
 - features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches)
 - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)
- elevated topography (e.g., eskers, drumlins, large knolls, plateaux)
- pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground
- distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.
- resource areas, including:
 - o food or medicinal plants (e.g., migratory routes, spawning areas, prairie)
 - o scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)
 - o early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

- *Early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)*
- property listed on a municipal register or designated under the Ontario Heritage Actor that is a federal, provincial or municipal historic landmark or site
- property that local histories or informants have identified with possible archaeological sties, historical events, activities, or occupations"

(MTC 2011: 17-18)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if property assessment of a study area or portions of a study area is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required."

(MCC & MOE 1992: 6-7)

"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment."

(MTC 2011: 17)

In addition, archaeological sites data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the relative significance of any resources that might be encountered during the conduct of the present study. For example, the relative rarity of a site can be used to assign an elevated level of significance to a site that is atypical for the immediate vicinity. The requisite archaeological sites data of previously registered archaeological sites was collected from the Programs and Services Branch, Culture Programs Unit, MTCS and the corporate research library of AMICK Consultants Limited. The Stage 1 Background Research methodology also includes a review of the most detailed available topographic maps, historical settlement maps, archaeological management plans (where applicable) and commemorative plaques or monuments. When previous archaeological research documents lands to be impacted by the proposed undertaking or archaeological sites within 50 metres of the study area, the reports documenting this earlier work are reviewed for pertinent information. AMICK Consultants Limited will often modify this basic methodology based on professional judgment to include additional research (such as, local historical works or documents and knowledgeable informants).

5.2.1 CURRENT CONDITIONS

The present use of the study area is as actively farmed agricultural land. The study area is roughly 12.6 hectares in area. The study area includes within it mostly ploughable lands. There are two low and wet areas as well as an area that was formerly pasture and lawn, but is now mainly disturbed. The study area is bounded on the east by Sixth Line and on the north, south and west by agricultural land and woodlot. The study area is approximately one kilometre south of Burnhamthorpe Road. A developmental plan of the study area is included within this report. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in the Images section of the report.

5.2.2 GENERAL HISTORICAL OUTLINE

The County of Halton, was named after Major William Mathew Halton, who was the Secretary to the Upper Canada provincial Lieutenant-Governor Sir Francis Gore in 1805. United Empire Loyalists were the first settlers in the area and arrived in the early 1780s. The United Empire Loyalists chose to settle in the southern part of the county and the northern part was settled by immigrants from the British Isles. The area was officially designated a county in 1816 and was originally part of Gore District and consisted of 4 townships; Esquesing, Nassageweya, Nelson and Trafalgar Township.

The Township of Trafalgar was opened to settlers in 1806 after the lands from the Mississauga Purchase were surveyed. Samuel Wilmot surveyed the Township and a segment of his original survey is included in this report (see Figure 2). The Township was named after the Battle of Trafalgar, where the British defeated the Spanish and French fleets. Within 4 years settlers within the area had already constructed schools and churches within villages (Oakville Fine Homes 2011).

Merchant and shipbuilder Colonel William Chisholm founded the Village of Oakville in 1827. Chisholm purchased 960 acres of Crown Land at the mouth of Sixteen Mile Creek and he then established the first privately owned harbor in Upper Canada. This harbor created a hub for trade between Hamilton, Toronto and foreign cities. In 1834, Oakville was declared a Port of Entry into Canada where William Chisholm was the first Customs Inspector. When incorporated as a town in 1857, his son George Chisholm became Oakville's first mayor. The current Town of Oakville includes the surrounding townships of Trafalgar and Bronte, which were amalgamated in 1962 (Town of Oakville 2011).

Robert Gourlay's *Statistical Account of Upper Canada* (Gourlay 1974) originally published in 2 volumes in 1822, includes the following description of Trafalgar Township from 1817. Item the 31st provides are particularly vivid description of the hardships of early settlement.

"At a meeting of the inhabitants of our township, holden on the 27th November, 1817, at the house of Daniel Munn, innkeeper, the following answers were framed in reply to your queries, as they appeared to us in the Niagara Spectator.

"9th. The surface of the land is level; the topsoil is clay, mixed with loam and a little gravel; under that is clay, mostly of a red colour.

"10th. Our timber consists of oak, two kinds, white and red; pine, very large, of the white kind; beech; maple, two kinds; sugar maple, and soft maple; ash, two kinds, the black or swamp ash, and white ash; basswood; hickory; elm; white and red; hemlock; ironwood; chestnut; some birch; quaking asp; some cedar; some butternut, and a little tamarask: the timber mostly large, and stands thick on the land.

"11th. Respecting minerals, there is a considerable quantity of the mineral of iron, called bog ore; also a few salt springs of an inferior kind.

"12th. Building stones, none, excepting a few, which may be found over the land of a very indifferent kind.

"15th. Blacksmiths most generally work by the pound; that is, $7\frac{1}{2}$ d. per lb. when the iron and steel are found, and is 1s. 3d. when the blacksmith finds the materials; to this there are some exceptions, but not many.

"18th. The common custom of our township is to cut down no more at first than the timber which is a foot in diameter, measured about two feet and a half from the root of the tree, and all under that size; and the rest they girdle and kill with the axe. In this state it will produce nearly as good a crop as if all were cut down, and this only costs 1 lb. 10 s. per acre; the rest of the timber is cut down by degrees, for fencing and for fire wood, &c.

"21st. Beasts are turned out about the first of May, and taken in about the first of December.

"22nd. Sleighing lasts about three months, that is, beginning about the first of January, and ends about the last of March. Ploughing begins about the 20th of April.

"23rd. Season of sowing wheat is from the 25th of August till the 1st of October; the time of harvesting of said grain is from the twentieth of July till the end of August.

"25th. Respecting pasture, as the wild woods constitute our principal pasture lands, we have not yet made sufficient experiments to enable us to answer your query; but our meadow lands will generally produce one ton per acre.

"26th. The ordinary course of cropping in new land, is wheat the first year, harrowed in, and sometimes a crop of oats are harrowed in, in the spring, on the stubble; then it is sown down with Timothy or clover, or both together, and is used for meadow for three or four years, till the roots rot in the ground, and then ploughed up, after which peas or buckwheat are generally sown first, and then wheat, perhaps the same season; and then peas or buckwheat, or oats, and then wheat, and so on alternately; little or no manure is used, but corn land and orchards require it most.

"27th. Land is frequently let on shares on the following terms: if new, the leaser finds the leasee in team, in boarding, in farming utensils, and in half the seed, and then receives half the produce. If old land, and the leasee finds every thing, the leasee has one third of the produce. Enough of land can be had on either of these ways.

"28th. A farm of two hundred acres, with a log house, and a barn upon it, with 40 acres, cleared in the customary way, may be had for 375 l. If frame buildings are upon it, a greater price; but seldom in proportion to the buildings.

"29th. The quantity of land for sale we cannot justly describe, but we suppose 3 or 4,000 acres; and there are but few farmers in our township, who would not even sell their improved farms, if they had the offer of a good price.

"30th. The state of public roads at present is but indifferent; but they are capable of improvement at a very moderate expense. As the face of our country is generally level, great improvement might be made by means of canals and locks. Respecting our navigation, we are situated on the coast of lake Ontario, and thence we have benefit of all the adjoining waters. Besides we have two very fine streams, called the Twelve and Sixteen Mile Creeks; these can be made navigable for boats, some part of the year, four miles from the mouth, to communicate with our mills on Dundas Street. The mouth of the Sixteen, where it empties into lake Ontario, is navigable for vessels of a considerable burden, and forms a safe and commodious harbour.

"31st. The causes which retard the improvement of our township and the province are large and various. The first and principal cause you have already justly observed, that is, the want of capital; this may perhaps be best illustrated by facts: know then, that the greater number of our farmers, when they first settled in the wild woods, have little more property than a cow, a yoke of oxen, a log chain, and an axe; and some have little or no property at all but their axe alone. The family generally consist of a man and his wife, and a number of young children, unable to hire hands; the whole of the labour naturally devolves upon the man, and hence it is, that for six or seven years, till such time as the roots of the timber begin to rot in the ground, so that he can use the plough, and until the eldest of his children grows up to help him, his toil is incessant; four or five acres are all that he is able to clear and sow in a season, and that is generally put in so late, that it produces but little; so that the whole of his crop will scarcely support him through the year; but many times he has to work out for a part of his bread. Clothes he must have for himself and his family, and these must be got out of the store; and merchant's goods are very dear in this province; and as he hath nothing to pay with, he is obliged to go on credit. These in a few years soon run up high, so that by the time he gets his farm in such a state of improvement, as might enable him to live comfortable, he is frequently obliged to sell it, in order to pay off his debts. Such is the consequence of beginning poor. But this, you will observe, is only the gloomy side of things; for those who are so fortunate as to weather out the storm the first ten years, without sinking their plantations, are generally enabled to spend the remainder of their days in comfort. The scarcity of labourers, and the very high price of labour, so that the produce will scarcely pay pay the hands, forms another hindrance to the improvement of our township, and the province at large. Another hindrance is, that in many places of this province, large tracts of land

been granted to certain individuals, and these being generally men of fortune, are under no necessity of selling their lands, but hold them to so high a price, that poor people are not able to buy them; again, there are many of these gentlemen gone out of the province, so that there is no opportunity to purchase from them; so it still remains a wilderness, and the poor people who are settled around such tracts, have roads to make, and every other public duty to perform, at their own expense, which greatly enhances to value of such land, to the great injury of the inhabitants.

"Another hindrance respecting our township, is that a great number of lots are reserved for the crown and the clergy, and notwithstanding that these lots might be rented for 21 years, for a very small sum of money, yet the land, in this province, has hitherto been so plenty and cheap, that no one cares for renting the land, who can have it in fee simple: hence it is, that the greater number of them still remain unsettled; but when settlers become numerous, this evil will soon be done away.

"What, in our opinion, would contribute to the improvement of our township and the province at large, would be to encourage men of property into the country, to purchase the waste lands of our province, which if sold even at a moderate price, would introduce such a flow of capitol into our province, as would not only encourage a respectable race of settlers of every description, to come in and cultivate the face of the country, and turn the wilderness into fruitful fields, but it would also make trade and manufactures of all kinds flourish; then would our province no longer remain poor, neglected, and unknown to the world; but would become a respectable colony, not only able to support herself, but she would add a large revenue to the British Crown and her redundancies would contribute to feed the hungry, and clothe the poor of other nations." (Gourlay 1974: 179-182)

Further on in the same work, Gourlay provides a summary chart for the returns from the Gore District. His summary of Trafalgar Township notes that there are 97 inhabited houses, a population of 548 residents, no churches, 2 Methodist preachers, no medical practitioners, 3 schools, 0 stores, 4 taverns, 1 grist mill, and 4 saw mills. He also provides costs to hire various trades and prices paid for various agricultural products in the same chart (Gourlay 1974: 206).

HISTORIC ATLAS MAP (1877)

Map 3 illustrates the location of the study area and environs as of 1877 according to the Township Map included in the Illustrated Historical Atlas of the County of Halton (1877). Lot 16 is shown to belong to Isaac Freeman. The study area is located within the north half of Lot 16. There are no structures depicted within the north half of the lot, although two structures are located in the southern half of the lot within Munn's Corners.

It must be borne in mind that inclusion of names of property owners and depictions of structures within properties on these maps were sold by subscription. While information included within these maps may provide information about occupation of the property at a specific point in time, the absence of such information does not indicate that the property was not occupied.

5.2.3 SUMMARY OF HISTORICAL CONTEXT

The brief overview of documentary evidence readily available indicates that the study area is situated within an area that was close to the historic transportation routes and in an area well populated during the nineteenth century and as such has potential for sites relating to early Euro-Canadian settlement in the region.

5.3 ARCHAEOLOGICAL CONTEXT

The Archaeological Sites Database administered by the Ministry of Tourism, Culture and Sport (MTCS) indicates that there are 32 previously documented sites within 1 kilometre of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTCS. In addition, it must also be noted that a lack of formerly documented sites does not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

On the basis of information supplied by MTCS, no archaeological assessments have been conducted within 50 metres of the study area. AMICK Consultants Limited assumes no responsibility for the accuracy of previous assessments, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTCS. In addition, it must also be noted that the lack of formerly documented previous assessments does not indicate that no assessments have been conducted.

Data contained in previous archaeological reports in close proximity to the study area that is relevant to Stage 1 Background Study is defined within the <u>Standards and Guidelines for</u> <u>Consultant Archaeologists</u> in Section 7.5.8 Standard 4 as follows:

"Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area, as documented by all available reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites immediately adjacent (i.e., within 50 m) to those lands."

(MTCS 2011: 126 Emphasis Added)

In accordance with data supplied by MTCS for the purposes of completing this study, there are no previous reports detailing, *"archaeological fieldwork carried out on the lands to be impacted by this project"*, nor do any previous reports document known archaeological sites within 50 metres of the study area.

The <u>Standards and Guidelines for Consultant Archaeologists</u> stipulates that the necessity to summarize the results of previous archaeological assessment reports, or to cite MTCS File Numbers in references to other archaeological reports, is reserved for reports that are directly relevant to the fieldwork and recommendations for the study area (S & Gs 7.5.7, Standard 2, MTC 2011: 125). This is further refined and elaborated upon in Section 7.5.8, Standards 4 & 5, MTC 2011:

"4. Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area, as documented by all available **reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites immediately adjacent (i.e., within 50m) to those lands.**"

"5. If previous findings and recommendations are relevant to the current stage of work, provide the following:

- a. a brief summary of previous findings and recommendations
- b. *documentation of any differences in the current work from the previously recommended work*
- c. rationale for the differences from the previously recommended work"

(Emphasis Added)

5.3.1 FIRST NATIONS REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTCS. As a result it was determined that 28 archaeological sites relating directly to First Nations habitation/activity had been formally registered within the immediate vicinity of the study area.

Site Name	Borden #	Site Type	Cultural Affiliation
	AjGx-181		Archaic, Early
	AiGw-504		Pre-Contact
Morrison Creek	AiGw-501		Pre-Contact, Woodland, Late
	AiGw-488		Archaic, Late
	AiGw-468		Pre-Contact
	AiGw-467		Pre-Contact
	AiGw-433		Pre-Contact
	AiGw-429		Pre-Contact
Landing	AiGw-427		Archaic
	AiGw-421		Pre-Contact
	AiGw-420		Pre-Contact

TABLE 1FIRST NATIONS SITES WITHIN 1KM

Site Name	Borden #	Site Type	Cultural Affiliation	
	AiGw-419		Archaic, Early	
Pendent	AiGw-418		Archaic, Middle	
	AiGw-417		Pre-Contact	
	AiGw-415		Pre-Contact, Woodland, Early	
	AiGw-414		Archaic	

Table 2 illustrates the chronological development of cultures within southern Ontario prior to the arrival of European cultures to the area at the beginning of the 17th century. This general cultural outline is based on archaeological data and represents a synthesis and summary of research over a long period of time. It is necessarily generalizing and is not necessarily representative of the point of view of all researchers or stakeholders. It is offered here as a rough guideline and outline to illustrate the relationships of broad cultural groups and time periods.

 TABLE 1
 Cultural Chronology for Southern Ontario

Years ago	Period	Southern Ontario			
250	Terminal Woodland	Ontario and St. Lawrence Iroquois Cultures			
1000	Initial Woodland	Princess Point, Saugeen, Point Peninsula, and Meadowood			
2000		Cultures			
3000					
4000	Archaic	Laurentian Culture			
5000					
6000					
7000					
8000	Palaeo-Indian	Plano and Clovis Cultures			
9000					
10000					
11000					
		(Wright 1972)			

5.3.2 EURO-CANADIAN REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTCS. As a result it was determined that 17archaeological sites relating directly to Euro-Canadian habitation/activity had been formally registered within the immediate vicinity of the study area (see Table 3).

Site Name	Borden #	Site Type	Cultural Affiliation
McDuffe Site	AjGw-501		Post-Contact
Bigger	AjGw-500		Post-Contact

TABLE 3EURO-CANADIAN SITES WITHIN 1KM

AMICK Consultants Limited

Site Name	Borden #	Site Type	Cultural Affiliation
Location 1	AiGw-986	Homestead	Euro-Canadian
AiGw-545	AiGw-545	Farmstead,	Euro-Canadian
		homestead,	
		house	
	AiGw-500		Post-Contact
	AiGw-499		Post-Contact
	AiGw-498		Post-Contact
	AiGw-497		Post-Contact
Mosely Farm House	AiGw-496		Post-Contact
	AiGw-495		Post-Contact
	AiGw-494		Post-Contact
Bourbee	AiGw-493	Homestead	Post-Contact, Pre-Contact
	AiGw-492		Post-Contact
	AiGw-491		Post-Contact
	AiGw-490		Post-Contact
Phillips	AiGw-489		Post-Contact

The above noted archaeological sites are not situated within 300 metres of the study area. Therefore, it has no impact on determinations of archaeological potential with respect to the archaeological assessment of the proposed undertaking. Five additional sites are also located within 1-km of the study area but the sites database does not provide information regarding cultural affinity of site type. These include: AiGw-454, AiGw-416, AiGw-179.

5.3.3 LOCATION AND CURRENT CONDITIONS

The study area is located at municipal address 3270 Sixth Line, Part of Lot 16, Concession 1 N.D.S. (Geographic Township of Trafalgar, County of Halton) Town of Oakville. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) in order to support a Draft Plan of Subdivision application and companion Zoning By-law Amendment application as part of the pre-submission process.

The present use of the study area is as actively farmed agricultural land. The study area is roughly 12.6 hectares in area. The study area includes within it mostly ploughable lands. There are two low and wet areas as well as an area that was formerly pasture and lawn, but is now mainly disturbed. The study area is bounded on the east by Sixth Line and on the north, south and west by agricultural land and woodlot. The study area is approximately one kilometre south of Burnhamthorpe Road. A developmental plan of the study area is included within this report. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in the Images section of the report.

5.3.4 Physiographic Region

The study area is situated within the South Slope physiographic region which extends from the Niagara Escarpment to the Trent River. Conditions in the region vary greatly. The area in which the study area lies is described as a ground moraine with irregular knolls and hollows. The South Slope lies across the limestones of the Verulam and Lindsay Formations, the grey shales of the Georgian Bay Formation and the reddish shales of the Queenston Formation. A till consisting nearly of red and grey shale is reached west of the Credit River. The soil is only slightly acidic, ranging from sandy in the east to clayey in the west (Chapman and Putnam 1984: 172-174).

5.3.5 SURFACE WATER

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological site potential. The <u>Standards and Guidelines for Consultant</u> <u>Archaeologists</u> stipulates that undisturbed lands within 300 metres of a water source are considered to have archaeological potential (MTC 2011: 21).

There are primary water sources within 300 metres of the study area. There are also low and wet areas within the study area.

5.3.6 CURRENT PROPERTY CONDITIONS CONTEXT

Current characteristics encountered within an archaeological research study area determine if property Assessment of specific portions of the study area will be necessary and in what manner a Stage 2 Property Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. For the purpose of determining where property Assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.3.6.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to property Assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area

beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area does not contain any existing buildings or building footprints. There is a capped well within the study area.

5.3.6.2 DISTURBANCE

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15), as well as driveways made of gravel or asphalt or concrete, in-ground pools, and wells or cisterns. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment. Disturbed areas are excluded from Stage 2 Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology.

"Earthwork is one of the major works involved in road construction. This process includes excavation, material removal, filling, compaction, and construction. Moisture content is controlled, and compaction is done according to standard design procedures. Normally, rock explosion at the road bed is not encouraged. While filling a depression to reach the road level, **the original bed is flattened after the removal of the topsoil.** The fill layer is distributed and compacted to the designed specifications. This procedure is repeated until the compaction desired is reached. The **fill material should not contain organic elements**, and possess a low index of plasticity. Fill material can include gravel and decomposed rocks of a particular size, but should not consist of huge clay lumps. Sand clay can be used. The area is considered to be adequately compacted when the roller movement does not create a noticeable deformation. **The road surface finish is reliant on the economic aspects**, **and the estimated usage.**" [Emphasis Added]

(Goel 2013)

The supporting matrix of a hard paved surface cannot contain organic material which is subject to significant compression, decay and moisture retention. Topsoil has no engineering value and must be removed in any construction application where the surface finish at grade requires underlying support.

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential. This consideration does not apply to relatively minor below ground services that connect structures and facilities to services that support their operation and use. Major servicing corridors will be situated within adjacent road allowances with only minor, narrow and relatively shallow underground services entering into the study area to connect existing structures to servicing mainlines. The relatively minor, narrow and shallow services buried within a residential property do not require such extensive ground disturbance to remove or minimize archaeological potential within affected areas.

The study area does contain previous disturbances. A gravel driveway is located on the east side of the study area. The area surrounding this driveway has been disturbed as is evident by the removal of topsoil and placement of gravel fills. It appears that at least one structure had been previously in this area but had been demolished recently. Aerial photography indicates that a cell tower was recently on the subject property.

5.3.6.3 LOW-LYING AND WET AREAS

Landscape features that are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Property Assessment due to inaccessibility.

There are low-lying wet areas within the study area.

5.3.6.4 STEEP SLOPE

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Property Assessment.

Although some portions of the study area that were subject to test pit survey may qualify as steep slope under the Standards and Guideline for Consultant Archaeologists (MTC 2011), AMICK Consultants Limited corporate policy is that slopes are to be test pit surveyed on any occasion where it is safe to do so. This exceeds the requirements of the Standards and Guidelines and offers greater surety of total coverage of viable assessment areas. Slopes are not assessed because steep slopes are interpreted to have low potential, not due to viability to assess, except in cases where the slope is severe enough to become a safety concern for archaeological field crews. In such cases, the Occupational Health and Safety Act takes precedence as indicated in the introduction to the Standards and Guidelines. Assessment of slopes, except where safety concerns arise, eliminates the invariably subjective interpretation

of what might constitute a steep slope in the field. This is done to minimize delays due to conflicts in such interpretations and to increase the efficiency of review.

The study area does not contain areas of steep slope.

5.3.6.5 WOODED AREAS

Areas of the property that cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Property Assessment, and are required to be assessed using test pit survey methodology.

The study area does contain a small wooded area in the southwest corner.

5.3.6.6 PLOUGHABLE AGRICULTURAL LANDS

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly turns the soil, which in turn brings previously buried artifacts to the surface, which are then easily identified during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall, soil is washed off of exposed artifacts at the surface and the visibility of artifacts at the surface of recently worked field areas is enhanced markedly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does contain ploughable lands in the form of agricultural fields.

5.3.6.7 LAWN, PASTURE, MEADOW

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does contain areas of pasture and meadow within its southeast portion.

5.3.7 SUMMARY

Background research indicates the vicinity of the study area has potential for archaeological resources of Euro-Canadian origins based on proximity to a historic roadway and documented historic settlement.

Current conditions within the study area indicate that some areas of the property may have no or low archaeological potential and do not require Stage 2 Property Assessment or should be excluded from Stage 2 Property Assessment. A significant proportion of the study area does exhibit archaeological potential and therefore a Stage 2 Property Assessment is required.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

6.0 FIELD WORK METHODS AND WEATHER CONDITIONS

This report confirms that the study area was subject to Stage 2 Property Assessment by test pit methodology on 15 November 2017, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. Weather conditions were appropriate for the necessary fieldwork required to complete the Stage 2 Property Assessment and to create the documentation appropriate to this study. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in the Maps section of this report. Upon completion of the property inspection of the study area, it was determined that select areas would require Stage 2 archaeological assessment consisting of test pit survey methodology.

6.1 **PROPERTY INSPECTION**

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate the Stage 2 Property Assessment. All areas of the study area were visually inspected and photographed. This component of the study was completed concurrently with the Stage 2 Property Assessment.

6.2 **PEDESTRIAN SURVEY**

In accordance with the <u>Standards and Guidelines for Consultant Archaeologists</u>, pedestrian survey is required for all portions of the study area that are ploughable or can be subject to cultivation. This is the preferred method to utilize while conducting an assessment. This report confirms that the conduct of pedestrian survey within the study area conformed to the following standards:

 Actively or recently cultivated agricultural land must be subject to pedestrian survey.
 [All actively or recently cultivated agricultural land was subject to pedestrian

[All actively or recently cultivated agricultural land was subject to pedestrian survey]

- Land to be surveyed must be recently ploughed. Use of chisel ploughs is not acceptable. In heavy clay soils ensure furrows are disked after ploughing to break them up further.
 [All land was recently ploughed]
- Land to be surveyed must be weathered by one heavy rainfall or several light rains to improve visibility of archaeological resources.
 [All land was weathered by rainfall]
- 4. Provide direction to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing. [Direction was given to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing]
- At least 80 % of the ploughed ground surface must be visible. If surface visibility is below 80% (e.g. due to crop stubble, weeds, young crop growth), ensure the land is re-ploughed before surveying. [Roughly 98% of the ploughed field surface was exposed and visible]
- 6. Space survey transects at maximum intervals of 5m (20 survey transects per hectare)
 [All transects were conducted at an interval of 5m between individual transects]
- 7. When archaeological resources are found, decrease survey transects to 1m intervals over a minimum of a 20m radius around the find to determine whether it is an isolated find or part of a larger scatter. Continue working outward at this interval until full extent of the surface scatter has been defined.
 [Survey transects were reduced to 1m intervals over a minimum of 20m radius around finds]
- 8. Collect all formal artifact types and diagnostic categories. For 19th century archaeological sites, collect all refined ceramic sherds (or, for larger sites collect a sufficient sample to form the basis for dating).
 [All formal artifact types and diagnostic categories were collected]
- 9. Based on professional judgment, strike a balance between gathering enough artifacts to document the archaeological site and leaving enough in place to relocate the site if it is necessary to conduct further assessment.
 [Based on professional judgment, a balance between gathering enough artifacts to document the archaeological site and to leave enough in place to relocate the site was achieved]

(MTC 2011: 30-31)

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6.3 TEST PIT SURVEY

In accordance with the <u>Standards and Guidelines for Consultant Archaeologists</u>, test pit survey is required to be undertaken for those portions of the study area where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Test pit survey is only used in areas that cannot be subject to ploughing or cultivation. This report confirms that the conduct of test pit survey within the study area conformed to the following standards:

1. Test pit survey only on terrain where ploughing is not possible or viable, as in the following examples:

a. wooded areas

[The study area does contain a small wooded area in its southwest corner that was subject to a test pit survey]

b. pasture with high rock content

[Not Applicable - The study area does not contain any pastures with high rock content]

c. abandoned farmland with heavy brush and weed growth [Not Applicable - The study area does not contain any abandoned farmland with heavy brush and weed growth]

d. orchards and vineyards that cannot be strip ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

[The study area contained an area of pasture and/or meadow that was test pit surveyed at an interval of 5m between individual test pits.]

e. properties where existing landscaping or infrastructure would be damaged. The presence of such obstacles must be documented in sufficient detail to demonstrate that ploughing or cultivation is not viable.
[Not Applicable - The study area does not contain the above-mentioned circumstances]

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.

[Not Applicable – The study area does not contain any linear corridors]

- 2. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.
 [All test pits were spaced at an interval of 5m between individual test pits]
- Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.
 [The entirety of the test pitted areas of the study area were assessed using high intensity test pit methodology at an interval of 5 metres between individual test pits]
- 4. Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.[Not applicable as there are no built structures in the study area]
- 5. Ensure that test pits are at least 30 cm in diameter. [All test pits were at least 30 cm in diameter]
- 6. Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.
 [All test pits were excavated by hand into the first 5 cm of subsoil and examined for stratigraphy, cultural features, or evidence of fill]
- 7. Screen soil through mesh no greater than 6 mm.[All soil was screened through mesh no greater than 6 mm]
- 8. Collect all artifacts according to their associated test pit. [Not Applicable - No archaeological resources were encountered]
- 9. Backfill all test pits unless instructed not to by the landowner. [All test pits were backfilled]

(MTC 2011: 31-32)

"A combination of property inspection and test pitting may be used when initial Stage 2 results determine that all or part of the project area may in fact be disturbed. The Stage 2 survey may then consists of a detailed inspection (equivalent to Stage 1), combined with test pitting."

 If it was not done as part of Stage 1, inspect and document the disturbed areas according to the standards described for Stage 1 property inspections.
 [The disturbed areas of the study area were inspected and documented as per the standards described for Stage 1 property inspections. Apparent areas of disturbance where Stage 2 Property Assessment survey was not viable were mapped and documented photographically but excluded from the Stage 2 survey. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces

meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment. Disturbed areas are excluded from Stage 2 Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology. Areas of exclusion include the gravel driveway and previously stripped area in the southeast portion of the study area.

Areas of suspected disturbance where test pit survey was viable were shovel tested as described below.]

2. Place Stage 2 test pits throughout the disturbed areas according to professional judgment (and where physically viable) as to confirm that these areas have been completely disturbed.

[An area of probable disturbance was identified during the property inspection conducted concurrently with the Stage 2 Property Assessment. This area consists of an area of gravel disturbed ground surrounding the a gravel driveway where it appears that structures once existed. Test pits were excavated judgmentally across the entirety of the disturbed portion of the study area to confirm disturbance. The excavated soil and the profiles of these test pits were examined to determine if each represented an area of disturbance. In this manner the extent of the disturbed area was delineated. This area was deemed to have low potential for archaeological resources. Once the extent and limits of the disturbance was identified, standard test pit survey at a 5-metre interval between test pits was resumed.]

(MTC 2011: 38)

Approximately 60% of the study area consisted of agricultural fields that were pedestrian surveyed at an interval of 5 metres between individual transects. Approximately 15% of the study area consisted of area that was test pit surveyed at an interval of 5 metres between individual test pits. Approximately 15% of the study area consisted of low and wet areas. The remaining 10% of the study area consisted of disturbed gravel ground that was judgmentally test pit surveyed.

7.0 **RECORD OF FINDS**

Section 7.8.2 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 137-138) outlines the requirements of the Record of Finds component of a Stage 2 report:

- 1. For all archaeological resources and sites that are identified in Stage 2, provide the following:
 - *a. a general description of the types of artifacts and features that were identified*
 - b. a general description of the area within which artifacts and features were identified, including the spatial extent of the area and any relative variations in density
 - c. a catalogue and description of all artifacts retained
 - *d. a description of the artifacts and features left in the field (nature of material, frequency, other notable traits).*
- 2. Provide an inventory of the documentary record generated in the field (e.g. photographs, maps, field notes).
- 3. Submit information detailing exact site locations on the property separately from the project report, as specified in section 7.6. Information on exact site locations includes the following:
 - a. table of GPS readings for locations of all archaeological sites
 - b. maps showing detailed site location information.

7.1 ARCHAEOLOGICAL RESOURCES

As a result of the property Assessment of the study area, three (3) isolated pre-contact findspots were encountered. Detailed description of the location of these sites can be found in the supplementary information package of this report filed under separate cover with the Ministry of Tourism culture and Sport. Catalogues for all finds are appended to this report. The catalogue of this report details artifact categories, material, provenience, measurements and heat alteration where applicable.

7.1.1 ISOLATED FINDS

Isolated Find 1

Isolated Find 1 (P1) consists of a single piece of a thinning flake manufactured from indeterminate chert. It is a non-diagnostic artifact that cannot be related to a specific point in time or attributed to an identifiable cultural group.

Isolated Find 2

Isolated Find 2 (P2) consists of a single piece of a secondary flake manufactured from Onondaga chert. It is a non-diagnostic artifact that cannot be related to a specific point in time or attributed to an identifiable cultural group.

Isolated Find 3

Isolated Find 3 (P3) consists of a single piece of shatter from Onondaga chert. It is a non-diagnostic artifact that cannot be related to a specific point in time or attributed to an identifiable cultural group.

7.2 ARCHAEOLOGICAL FIELDWORK DOCUMENTATION

The documentation produced during the field investigation conducted in support of this report includes: one sketch maps, one page of field notes, and 29 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment on 15, November 2017, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism, Culture and Sport (MTCS) on behalf of the government and citizens of Ontario.

Section 7.7.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- *1) "Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

8.1 CHARACTERISTICS INDICATING ARCHAEOLOGICAL POTENTIAL

Section 1.3.1 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics that indicate archaeological potential (MTC 2011: 17-18). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously registered archaeological sites have been documented within 300 metres of the study area.

2) <u>Water Sources</u>

Primary water sources are described as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are identified water sources within 300 metres of the study area.

3) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are no identified features indicating past water sources within 300 metres of the study area.

4) <u>Accessible or Inaccessible Shoreline</u>

This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are no shorelines within 300 metres of the study area.

5) Elevated Topography

Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are no identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

The soil throughout the study area is dark brown sandy loam, which is consistent with the wider area surrounding the property. Therefore, the presence of this soil has no impact on potential within the study area, as the wider area is not known for clay soils or exposed bedrock.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated is not situated in proximity to a historic house identified on the historic atlas map.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated within 100 metres of an early settlement road that appears on the Historic Atlas Map of 1875. This historic road corresponds to the road presently known as Sixth Line which is adjacent to the study area.

11) Heritage Property

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties that form a part of the study area. There are no listed or designated heritage buildings or properties that are adjacent to the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no known heritage features, or known historic sites, or known archaeological sites within the study area in addition to those formally documented with the appropriate agencies or previously noted under a different criterion.

8.2 CHARACTERISTICS INDICATING REMOVAL OF ARCHAEOLOGICAL POTENTIAL

Section 1.3.2 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study. The introduction of Section 1.3.2 (MTC 2011: 18) notes that "*Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include:"*

1) Quarrying

There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties that do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations that penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities that do not include the deep

excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

The study area does contain previous disturbances. A gravel driveway is located on the east side of the study area. The area surrounding this driveway has been disturbed as is evident by the removal of topsoil and placement of gravel fills. It appears that at least one structure had been previously in this area but had been demolished recently. Aerial photography indicates that a cell tower was recently on the subject property.

3) Building Footprints

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars that often obliterate archaeological deposits situated close to the surface.

There are no buildings currently within the study area.

4) <u>Sewage and Infrastructure Development</u>

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential.

There is no evidence to suggest that substantial below ground services of any kind have resulted in significant impacts to any significant portion of the study area. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment.

"Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential."

(MTC 2011: 18)

"Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment." (MTC 2011: 18)

Table 4 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to historic settlement structures, and the location of early historic settlement roads adjacent to the study area.

1 Known archaeological sites within 300m Y If Yes, potential determined PHYSICAL FEATURES If Yes, what kind of water? 2 Is there water on or near the property? Y If Yes, what kind of water? Primary water source within 300 m. (lakeshore, river, large creek, etc.) N If Yes, potential determined 2a river, large creek, etc.) N If Yes, potential determined 2b spring, marsh, swamp, etc.) Y determined Past water source within 300 m. (beach ridge, river bed, relic creek, etc.) N If Yes, potential determined 2c river bed, relic creek, etc.) N determined determined 2d (high bluffs, marsh, swamp, sand bar, etc.) N determined determined 2d Isign patients, swamp, sand bar, etc.) N If Yes, and Yes for any of 3. S-9, potential determined 4 Pockets of sandy soil in a clay or rocky area N If Yes and Yes for any of 3. 4, 6-9, potential 5 waterfalls, peninsulas, etc.) N If Yes, and Yes for any of 3. 5, 7-9, potential 4 Pockets of sandy soil in a clay or rocky area N S-9, potential determined	FEA	TURE OF ARCHAEOLOGICAL POTENTIAL	YES	NO	N/A	COMMENT		
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11 areas, etc.) Y (s) of the study area.	11		Y			(s) of the study area.		

TABLE 4EVALUATION OF ARCHAEOLOGICAL POTENTIAL

If YES to any of 1, 2a-c, or 10 Archaeological Potential is confirmed

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

8.3 STAGE 1 ANALYSIS AND CONCLUSIONS

As a result of the Stage 1 portion of the study it was determined that the study area has archaeological potential on the basis of proximity to historic settlement structures, and the location of early historic settlement roads adjacent to the study area.

8.4 STAGE 2 ANALYSIS AND CONCLUSIONS

Section 7.8.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Property Assessment.

- 1. Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required
 - c. A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

Archaeological sites or resources were found during the Stage 2 survey of the study area.

9.0 **Recommendations**

9.1 STAGE 1 RECOMMENDATIONS

Under Section 7.7.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 133) the recommendations to be made as a result of a Stage 1 Background Study are described.

- Make recommendations regarding the potential for the property, as follows:

 a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.
 b. if no part of the property has archaeological potential, recommended that the property does not require further archaeological assessment.
- 2) Recommend appropriate Stage 2 assessment strategies.

The study area has been identified as an area of archaeological potential.

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The present use of the study area is as actively farmed agricultural land. The study area is roughly 12.6 hectares in area. The study area includes within it mostly ploughable lands. There are two low and wet areas as well as an area that was formerly pasture and lawn, but is now mainly disturbed. The study area is bounded on the east by Sixth Line and on the north, south and west by agricultural land and woodlot. The study area is approximately one kilometre south of Burnhamthorpe Road. A developmental plan of the study area is included within this report. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in the Images section of the report.

All portions of the property that could be ploughed were ploughed in advance of the assessment and were well weathered. The pedestrian survey was completed on all ploughed lands at an interval of 5 metres in between individual transects. Any areas that could not be ploughed were subject to assessment using the test pit methodology. Test pits were dug at a fixed interval of 5 metres across the surface area. Test pits measured a minimum of 30 centimeters in diameter and were dug at least 5 centimeters into the subsoil beneath the topsoil layer. All excavated earth was screened through 6 mm wire mesh to ensure that any artifacts contained within the soil matrix are recovered. All test pits were back filled and restored as much as was reasonably possible to the level of the surrounding grade.

9.2 STAGE 2 RECOMMENDATIONS

Under Section 7.8.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Property Assessment are described.

- 1) For each archaeological site, provide a statement of the following:
 - a. Borden number or other identifying number
 - b. Whether or not it is of further cultural heritage value or interest
 - *c.* Where it is of further cultural heritage value or interest, appropriate Stage 3 assessment strategies
- 2) Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.
- 3) If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.

As a result of the property Assessment of the study area, three isolated pre-contact findspots were encountered. None of the findspots are diagnostic and are not considered to be of any further cultural heritage value or interest. Consequently, the following recommendations are made:

- It is recommended that the study area be cleared of archaeological concern and that development activity be permitted to proceed.

10.0 Advice on Compliance with Legislation

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

- a. This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.
- d. The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

11.0 BIBLIOGRAPHY AND SOURCES

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12.0 MAPS

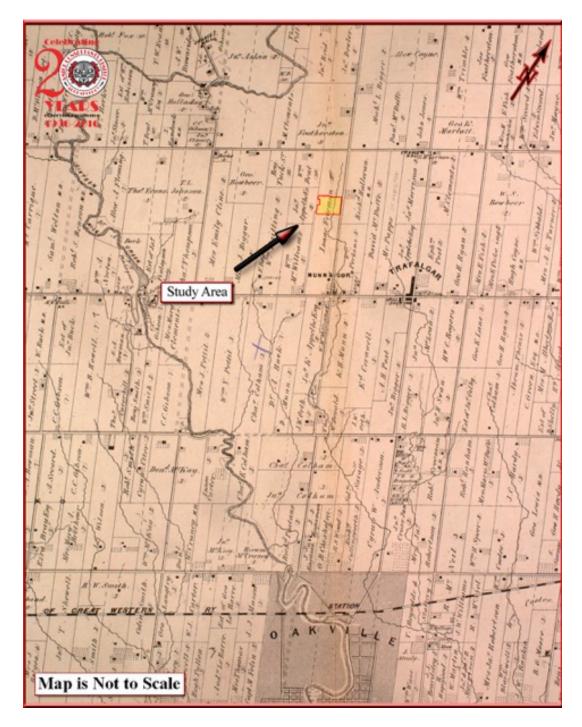


MAP 1 – LOCATION OF STUDY AREA



MAP 2 – LIMITS OF STUDY AREA OVERLAID ON RECENT AERIAL IMAGERY (Google Earth 2017)

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MAP 3: APPROXIMATE LOCATION OF STUDY AREA OVERLAID ON 1877 ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF HALTON.

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MAP 4 – CLEAR COPY OF DEVELOPMENT MAPPING PROVIDED BY PROPONENT

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Photo Locations and Directions 0 2 Assessed as Low & Wet Assessed as Disturbed ø ania nixis Ģ 9 -(4) 6 Area Subject to Pedestrian Survey @ 5 Metre Intervals 9 **~**(0) Area Subject to Test Pit Survey @ 5 Metre Intervals ε 231 2004 Limits of Study Area 0

MAP 5 – RESULTS OF THE STAGE 2 ARCHAEOLOGICAL ASSESSMENT (SEE SUPPLEMENTARY DOCUMENTATION FOR LOCATION OF FINDSPOTS)

13.0 IMAGES



IMAGE 1 – SHOWS EXISTING CEMENT COLUMN AND AREA OF DISTURBANCE



IMAGE 2 – SHOWS AREA OF DISTURBANCE



IMAGE 3 – LOW AND WET AREA



IMAGE 4 – LOW AND WET AREA



IMAGE 5 – CONDITIONS FOR PEDESTRIAN SURVEY



IMAGE 6 – CONDITIONS FOR PEDESTRIAN SURVEY

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IMAGE 7 – CONDITIONS FOR PEDESTRIAN SURVEY



IMAGE 8 – CONDITIONS FOR TEST PIT SURVEY



IMAGE 9 – CONDITIONS FOR TEST PIT SURVEY



IMAGE 10 – SHOWS DISTURBED CONDITIONS (NOTE LACK OF ANY TOPSOIL)



IMAGE 11 – REPRESENTATIVE ARTIFACTS. LEFT TO RIGHT: FINDSPOTS P1, P2 AND P3.

APPENDIX A: STAGE 2 ARTIFACT CATALOGUE							
Site	Provenience	Cat#	Qty	Material Comments			
P1	Surface	P1	1	Chert	Thinning flake; indeterminate chert type		
P2	Surface	P2	1	Chert	Secondary flake; Onondaga		
Р3	Surface	Р3	1	Chert	Shatter; Onondaga		

Celebrating



14.0 PROJECT REPORT SUPPLEMENTARY PACKAGE

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PROJECT INFORMATION:			
Corporate Project Number:	17328		
MTCS Project Number	P058-1583-2017		

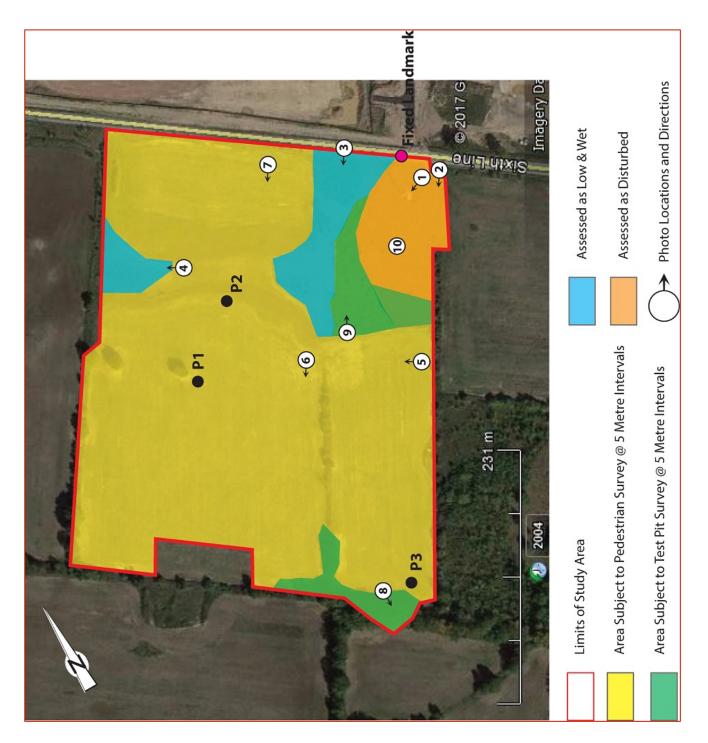
PROJECT INFORMATION: Corporate Project Number: MTCS Project Number: Investigation Type: Project Name: Project Location:

17328 P058-1583-2017 Stage 1-2 Archaeological Assessment 3270 Sixth Line Part of Lot 16, Concession 1 North of Dundas Street (Geographic Township of Trafalgar, County of Halton) Oakville

APPROVAL AUTHORITY INFORMATION:

File Designation Number:	N/A
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Reporting Information:	
Date of Report Filing:	March 1 2018
Type of Report:	ORIGINAL



MAP 6 – RESULTS OF STAGE 2 ARCHAEOLOGICAL ASSESSMENT SHOWING LOCATION OF ISOLATED FINDSPOTS

GPS COORDINATE DATA FOR 3 ISOLATED FINDSPOTS

GPS Receiver: Garmin eTrex 20

The GPS coordinates of the datum location are located in Table 1 below. All coordinates were obtained using a Garmin eTrex 20 handheld GPS unit. No methods of correction were used. Accuracy of the reading was to within two metres for each point.

Project Permanent Datum:

Fixed Landmark is a hydro pole located on 6th Line at north end of property.

Table 4: GPS Coordinates for Findspots						
UTM 17T NAD83	Findspot	Easting	Northing			
	P1	601755	4815517			
	P2	601813	4815551			
	P3	601797	4815258			
Fixed Landmark (Hydro Pole on 6 th		602029	4815546			
Line # 11520/11524)						